

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for rendering an image to available display area based on parameters of one or more unusable display areas, the method comprising:

5 determining one or more trapezoids for defining the available display area based
 on the parameters of the one or more unusable display areas;
 generating an image;
 determining location of components of the generated image relative to the
 determined one or more trapezoids; and
10 rendering the components of the generated image that are determined to be located
 within the one or more trapezoids.

2. The method of Claim 1, wherein determining comprises:

15 a) generating lines that define a boundary around the available display area;
 b) eliminating all lines being parallel to a predefined scan line direction;
 c) setting a first flag for each line to the lines maximum coordinate in a first axial
 direction, the first axial direction being orthogonal to the scan line
 direction;
 d) sorting the remaining lines into a list according to a sorting scheme;
20 e) generating a trapezoid based on the first two lines in the list and the next
 highest flag value of all the flags;
 f) replacing the flag of the first and second lines with the next highest flag;
 g) if the first flag for the first or second line is equal to the minimum coordinate
 of the respective line on the axis orthogonal to the scan line direction,
25 eliminating that line; and
 h) repeating d-g until all lines are eliminated.

3. The method of Claim 2, wherein sorting comprises:

30 setting a second flag for each line to a coordinate associated with the first flag in a
 second axial direction, the second axial direction being orthogonal to the first
 axial direction;
 wherein the sorting scheme places lines with the highest first flag value first in the
 list and if lines have the same first flag value, place the line with the lower
 second flag value first in the list.

35 4. A computer program product for performing the method of Claim 1.

5. A computer program product for performing the method of Claim 2.

6. A computer program product for performing the method of Claim 3.

7. A system for rendering an image to available display area based on parameters of one or more unusable display areas, the system comprising:

5 a means for rendering an image to available display area based on parameters of one or more unusable display areas, the computer program product comprising:

a means for determining one or more trapezoids for defining the available display area based on the parameters of the one or more unusable display areas;

10 a means for generating an image;

a means for determining location of components of the generated image relative to the determined one or more trapezoids; and

a means for rendering the components of the generated image that are determined to be located within the one or more trapezoids.

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8. The system of Claim 7, wherein the means for determining comprises:

a means for generating lines that define a boundary around the available display area;

a means for eliminating all lines being parallel to a predefined scan line direction;

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a means for setting a first flag for each line to the lines maximum coordinate in a first axial direction, the first axial direction being orthogonal to the scan line direction;

a means for sorting the remaining lines into a list according to a sorting scheme;

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a means for generating a trapezoid based on the first two lines in the list and the next highest flag value of all the flags;

a means for replacing the flag of the first and second lines with the next highest flag;

if the first flag for the first or second line is equal to the minimum coordinate of the respective line on the axis orthogonal to the scan line direction, a means

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for eliminating that line; and

a means for repeating until all lines are eliminated.

9. The system of Claim 8, wherein the means for sorting comprises:

a means for setting a second flag for each line to a coordinate associated with the first flag in a second axial direction, the second axial direction being orthogonal to the first axial direction;

5 wherein the sorting scheme places lines with the highest first flag value first in the list and if lines have the same first flag value, place the line with the lower second flag value first in the list.

10. A system for rendering an image to available display area based on parameters of one or more unusable display areas, the system comprising:

10 a first component configured to render an image to available display area based on parameters of one or more unusable display areas, the computer program product comprising:

a second component configured to determine one or more trapezoids for defining the available display area based on the parameters of the one or more unusable display areas;

15 a third component configured to generate an image;

a fourth component configured to determine location of components of the generated image relative to the determined one or more trapezoids; and

a fifth component configured to render the components of the generated image that are determined to be located within the one or more trapezoids.

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11. The system of Claim 10, wherein the means for determining comprises:

a generating component configured to generate lines that define a boundary around the available display area;

25 an eliminating component configured to eliminate all lines being parallel to a predefined scan line direction;

a first flag component configured to set a first flag for each line to the lines maximum coordinate in a first axial direction, the first axial direction being orthogonal to the scan line direction;

30 a sorting component configured to sort the remaining lines into a list according to a sorting scheme;

an image means component configured to generate a trapezoid based on the first two lines in the list and the next highest flag value of all the flags;

a second flag component configured to replace the flag of the first and second lines with the next highest flag;

if the first flag for the first or second line is equal to the minimum coordinate of the respective line on the axis orthogonal to the scan line direction, an eliminating component configured to eliminate that line; and a repeating component configured to repeat until all lines are eliminated.

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12. The system of Claim 11, wherein the sorting component comprises:

a setting component configured to set a second flag for each line to a coordinate associated with the first flag in a second axial direction, the second axial direction being orthogonal to the first axial direction;

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wherein the sorting scheme places lines with the highest first flag value first in the list and if lines have the same first flag value, place the line with the lower second flag value first in the list.

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